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REVIEW OF NEW WORLD MOTHS
OF GENUS *EUCHROMIUS* GUENÉE
WITH DESCRIPTIONS OF TWO NEW SPECIES
(LEPIDOPTERA: CRAMBIDAE)

By HAHN W. CAPPS¹

The purpose of this paper is to provide a means for accurate identification of the species of *Euchromius* Guenée occurring in the Western Hemisphere and to provide names for two undescribed species, heretofore confused with *Euchromius ocelleus* (Haworth).

Delineations of genitalia were prepared by A. D. Cushman, scientific illustrator, Entomology Research Division, Agr. Res. Serv., U.S. Department of Agriculture, and are not drawn to scale. The male genitalia are in lateral view, with one harpe omitted and the aedeagus removed. The female genitalia are in ventral view. Photos of adults are by J. Scott, staff photographer, Smithsonian Institution, and are twice natural size.

¹ Entomology Research Division, Agricultural Research Service, U. S. Department of Agriculture. Retired September 26, 1964.

Keys to New World Species of *Euchromius*

BASED ON COLOR AND DISTRIBUTION

1. Forewing brownish from base to inner transverse postmedial band, with little or no irroration (pl. 1: fig. 1) **galapagosalis**, new species
Forewing ochreous white from base to inner transverse postmedial band, with fuscous irroration variable but distinct (pl. 1: figs. 2-4) 2
2. Forewing with whitish area adjacent to blackish terminal dots narrow; a fine ochreous line about midway between dots and termination of irrorated area (pl. 1: figs. 2, 3) 3
Forewing with whitish area broader and with line much closer to termination of the irrorated area than to terminal dots (pl. 1: fig. 4).
californicalis (Packard)
3. Forewing with two transverse postmedial bands straight or nearly so; thin line in whitish patch adjacent to blackish terminal dots somewhat sinuous and weakly denticulate; distribution Argentina (pl. 1: fig. 3).
saltalis, new species
Forewing with two transverse postmedial bands usually sinuate or bent inwardly; thin line in whitish patch adjacent to blackish terminal dots rather smooth (pl. 1: fig. 2); distribution otherwise . **ocelleus** (Haworth)

BASED ON MALE GENITALIA

1. Harpe conspicuously extenuated and narrowed distally, somewhat finger-like (fig. 3) **californicalis** (Packard)
Harpe otherwise (figs. 1, 2, 4) 2
2. Aedeagus with two elongate patches of small, slender spinules basad of the large cornuti (figs. 1a, 2a) 3
Aedeagus with but one elongate patch of small, slender spinules basad of the large cornuti (fig. 4a) **ocelleus** (Haworth)
3. Harpe broad, costal margin strongly serrate with basal production truncated distally, apices subequal (fig. 1) **saltalis**, new species
Harpe narrower than above, serration of costal margin weak, the basal production rounded apically, with a single spine adjacent to apex (fig. 2).
galapagosalis, new species

BASED ON FEMALE GENITALIA

1. With conspicuous hooklike sclerotizations laterad of the ostium (figs. 5, 7) 2
Without such hooklike sclerotizations (figs. 6, 8) 3
2. Distance from ostium to origin of ductus seminalis much less than that from ductus seminalis to top of bursa copulatrix (fig. 7).
californicalis (Packard)
Distance from ostium to origin of ductus seminalis equal to or greater than that from ductus seminalis to tip of bursa copulatrix (fig. 5).
saltalis, new species
3. Ventral margin of ostium rather broad and distinctly undulate; ductus bursae with some distinct spinulation between ostium and origin of ductus seminalis (fig. 6) **galapagosalis**, new species
Ventral margin of ostium narrower than in above, and straight or nearly so; ductus bursae with conspicuous longitudinal grooves, without spinulation (fig. 8) **ocelleus** (Haworth)

Euchromius ocellus (Haworth)

FIGURES 4, 8; PLATE 1 (FIG. 2)

Palparia ocella Haworth, 1811, *Lepidoptera Britannica*, vol. 3, p. 486.*Eromene texana* Robinson, 1870, *Ann. Lyc. Nat. Hist. New York*, vol. 9, p. 155.

MALE (pl. 1: fig. 2).—Alar expanse 18–24 mm. Forewing: Upper surface coloration somewhat variable; sordid white, ochreous white to pale brown, with brownish or fuscous irroration distinct; two ochreous transverse postmedial bands, sinuate or concave inwardly, margined with silvery white or gray; two short, oblique bars of similar color adjacent to apex; terminal dots blackish, margined outwardly with silvery metallic scales; a narrow whitish patch adjacent to terminal dots with a thin brownish line midway between the dots and termination of the irrorated area. Hind wing subhyaline, sordid white or with some pale ochreous brown suffusion, without markings, or with a thin testaceous terminal line.

Genitalia (fig. 4): Uncus rather slender, length about equal to that from receptacle to tip of the gnathos. Harpe broad; costa serrate, basal process triangular distally, hook from near base of the process. Aedeagus with a rather extensive series of short, stout, spinelike cornuti and basad an elongate patch of small, slender spines.

FEMALE.—Alar expanse 17–26 mm. Similar to male in color and maculation.

Genitalia (fig. 8): Ostium rather narrow, weakly scobinate, ventral margin straight or nearly so; ductus bursae long, with longitudinal grooves, spinulation inconspicuous; distance from ostium to origin of ductus bursae about equal that from ductus seminalis to tip of the bursa copulatrix; two subequal signa, elongate, scobinate, and ridge-like.

LARVA.—Arrangement of body setae typical of a crambid. Prothorax with two setae on prespiracular shield; group VI bisetose. Meso- and metathorax with group VI unisetose. Abdominal proleg-bearing segments (3–6) with seta IV approximate to V, on same pinaculum and under the spiracle. Ninth abdominal segment with paired setae II on same pinaculum; setae I approximate to seta III and on same pinaculum; setae IV and V absent, only seta VI of this group present. Crochets on abdominal prolegs in a complete ring, irregularly triordinal in length, weaker outwardly.

Mature larva 18–20 mm. long. Head: Pale amber with some brownish reticulation; ocellar pigmentation blackish, extending from ocellus I to ocellus V, posterior margin of pigmentation tangent to anterior margin of ocellus VI; without fuscous pigmentation at lateral incision of hind margin of head. Thorax: Prothoracic shield amber, with some brownish suffusion and a few dark fuscous patches, the most conspicuous one posterior to and slightly below level of base of

seta Ib, the large one somewhat reniform and the other narrow, with long axis transverse. Body color sordid white, pinacula amber, rather large, round or nearly so and moderately sclerotized, except that on dorsum of ninth abdominal segment which is subrectangular. Spiracles: Rim black, central area sordid white; on abdominal segments 1-7, round or but slightly oval, small, with diameter but slightly larger than ring at base of the seta dorsad; on prothorax and abdominal segment 8, distinctly oval and much larger than on abdominal segments 1-7, three to four times larger. Anal shield broadly rounded, with a few inconspicuous brownish patches.

TYPE.—Male, in British Museum (Nat. Hist.), *ocelleus*; sex and location uncertain, *texana*.

TYPE LOCALITIES.—Near London, England, *ocelleus*; Texas, *texana*.

FOOD PLANT.—Corn and milo maize, on roots.

SPECIMENS EXAMINED.—167.

NEW WORLD DISTRIBUTION.—United States: Tennessee, Alabama, Texas, New Mexico, Colorado, Utah, Arizona, California, and Washington. Mexico: Sonora, Sinaloa, Durango, Federal District, and Vera Cruz. Panama: Corozal. French Guiana: Cayenne.

REMARKS.—*E. ocellus* is of wide distribution, occurring in many parts of the world. The distribution cited herein is for the Western Hemisphere and is restricted to localities represented by material studied. For additional synonymy and distribution, see Bleszynski and Collins (1962).

Heretofore, *ocelleus* has been associated with stored products and dead vegetation (Beirne, 1952; Corbet and Tams, 1943; Hinton, 1943; Meyrick, 1928). The species is not a feeder on such material and doubtless its association with these was accidental.

Euchromius californicalis (Packard)

FIGURES 3, 7; PLATE 1 (FIG. 4)

Eromene californicalis Packard, 1873, Ann. Lyc. Nat. Hist. New York, vol. 10, p. 264.

MALE (pl. 1: fig. 4).—Alar expanse 20-23 mm. Resembling *ocelleus* in color and maculation but with the whitish patch adjacent to blackish terminal dots somewhat broader; and the thin brownish line within, closer to termination of irrorated area than to the terminal dots.

Genitalia (fig. 3): Uncus stout. Gnathos with lateral, flaplike production at base and two conspicuous, dorsal, toothlike productions at receptacle. Harpe much narrower distally, fingerlike; process from near base of costa hooklike. Aedeagus (fig. 3a) slender, with a few coarse distal cornuti and an elongate patch of weaker spinules somewhat basad.

FEMALE.—Alar expanse 14–22 mm. Similar to male in color and maculation.

Genitalia (fig. 7): Hooklike sclerotization laterad of ostium greatly expanded basally. Ductus bursae short; distance from ostium to origin of ductus seminalis about one-third that from ductus seminalis to tip of bursa copulatrix. Two subequal signa, narrow, ridgelike.

LECTOTYPE.—Male, in collection of Museum of Comparative Zoology, MCZ type no. 14297, present designation.

TYPE LOCALITY.—California.

FOOD PLANT.—UNKNOWN.

SPECIMENS EXAMINED.—54.

DISTRIBUTION.—California, Washington, Idaho, Montana, Utah, and Colorado.

REMARKS.—*E. californicalis* was based on three males. Only two of the syntypes were located, both at the Museum of Comparative Zoology. One is without an abdomen; that with the abdomen is made lectotype of the species. The genitalia of the lectotype have been examined by brushing.

The illustration of Corbet and Tams (1943) of *californicalis* female genitalia does not agree with those of specimens in the U.S. National Museum. Their figure is definitely not of *californicalis* but of an abnormal specimen of *ocelleus* or of a species unknown to me.

Euchromius galapagosalis, new species

FIGURES 2, 6; PLATE 1 (FIG. 1)

Eromene ocella (Haworth).—Schaus, 1923, Zool. Sci. Zoologica, vol. 5, no. 2, p. 29.

MALE.—Alar expanse 16–21 mm. Resembling *ocelleus*, but differing from it as follows: Facies somewhat darker. Upper surface of forewing smoother in appearance, the whitish ground color heavily overlaid with brown from base of wing to inner transverse postmedial band and with little or no irroration; irroration beyond outer transverse postmedial band more blackish and denser; the ochreous transverse postmedial bands straight or bent outwardly. Hind wing with subterminal line brownish and more diffuse.

Genitalia (fig. 2): Uncus moderately stout, somewhat dilated between base and tip. Harpe with costal serration weak; basal production of costa rounded at apex, the hooklike spine from below apex. Aedeagus (fig. 2a) with an elongate series of short, stout spines and two basal patches of small, slender spinules.

FEMALE (pl. 1: fig. 1).—Alar expanse 16–22 mm. Similar to male in color and maculation.

Genitalia (fig. 6): Ventral margin of ostium rather broad, undulate, strongly sclerotized, and finely spinulate. Ductus bursae long,

longitudinal grooves weaker than in *ocelleus* but spinulation stronger. Two subequal signa, narrow, elongate, ridgelike.

TYPE.—Female, in collection of the U.S. National Museum, USNM type no. 67634, genitalia slide HWC 12,115.

TYPE LOCALITY.—South Seymour, Galápagos Islands.

PARATYPES.—Galápagos Islands: Isla Santa Cruz, Academy Bay, Darwin Research Station 134♂, 178♀ (Jan. 22 to Feb. 27, 1964; R.O. Schuster and D.Q. Cavagnaro); Isla Santa Cruz, Bella Vista Trail 2♂ (Feb. 11, 1964; D.Q. Cavagnaro); Isla Pinzon, Summit and Upper Calderas Areas 10♂, 3♀ (Feb. 7, 1964; D.Q. Cavagnaro). Paratypes in collections of the U.S. National Museum and the California Academy of Sciences.

FOOD PLANT.—Unknown.

REMARKS.—I am greatly indebted to Dr. C. Don MacNeill, Assistant Curator of Insects, Department of Entomology, California Academy of Sciences, for making available for study the large series collected by their representatives on a recent expedition to the Galápagos.

Efforts to locate the remainder of the series examined by Dr. Schaus were unsuccessful; however, in view of the absence of *ocelleus* in the extensive series of the California Academy of Sciences, it appears that *ocelleus* does not occur in the Galápagos and that *galapagosalis* is an endemic species, not occurring elsewhere.

Euchromius saltalis, new species

FIGURES 1, 5; PLATE 1 (FIG. 3)

MALE (pl. 1: fig. 3).—Resembling *californicalis* in color and maculation but forewing more cream colored from base to inner transverse postmedial band; and whitish patch, adjacent to terminal blackish dots, with the thin line more ochreous and located midway between the dots and termination of the irrorated area.

Genitalia (fig. 1): Uncus moderately stout. Harpe with costa strongly serrate, basal production rather broad, straplike and truncate distally with apices subequal, one strong, hooklike and the other minute. Aedeagus (fig. 1a) with a series of short, stout spines and two elongate patches of slender spinules.

FEMALE.—Alar expanse 20 mm. Similar to male in color and maculation.

Genitalia (fig. 5): Ostium with two lateral adzlike sclerotizations; ductus bursae long, somewhat longitudinally rugose and spinulation within rather coarse and conspicuous; origin of ductus seminalis about midway between ostium and tip of bursa copulatrix, two subequal signa, narrow, scobinate, ridgelike.

TYPE.—Male, in collection of the U.S. National Museum, USNM type no. 67635, genitalia slide HWC 12,110.

TYPE LOCALITY.—Salta, Argentina.

PARATYPE.—Female, in the U.S. National Museum.

FOOD PLANT.—Unknown.

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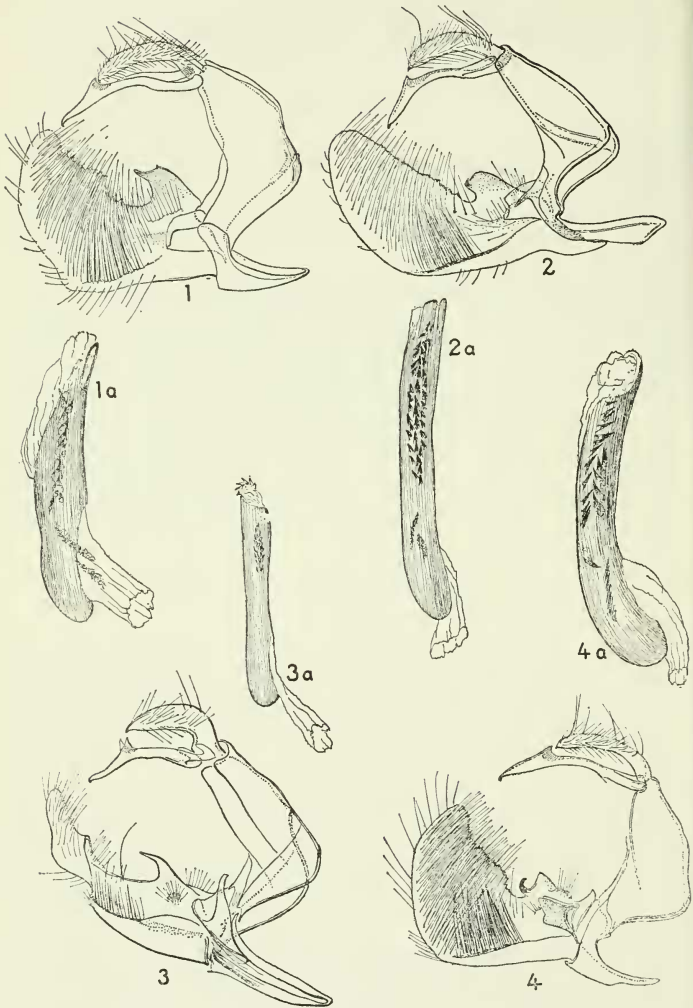
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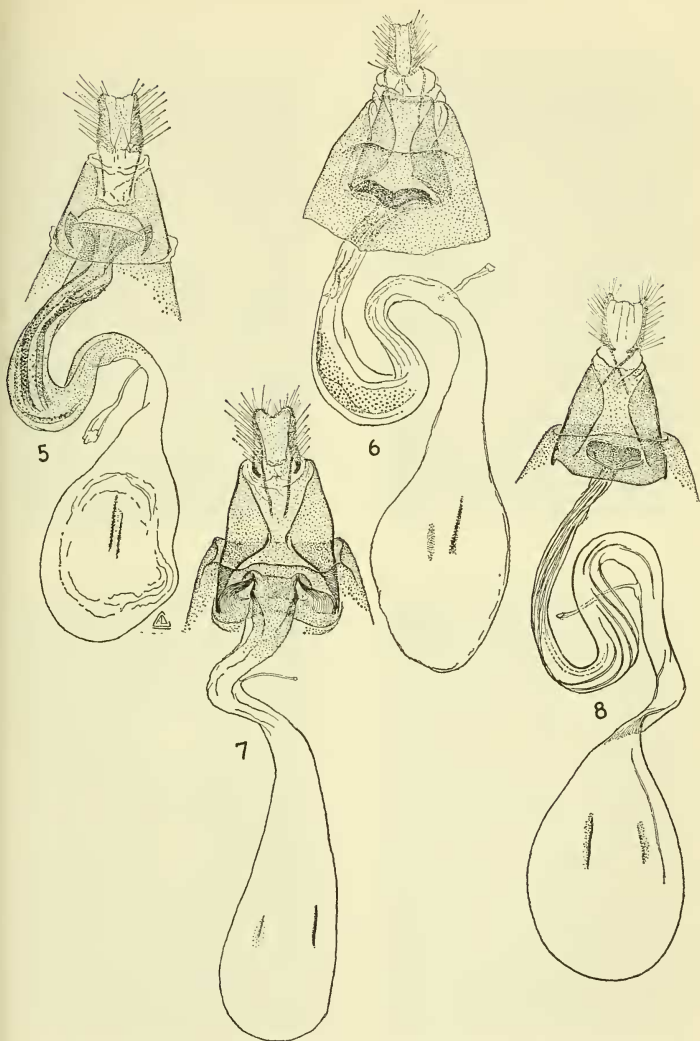
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FIGURES 1-4.—*Euchromius*, male genitalia: 1, 1a, *saltalis*, new species; 2, 2a, *galapagosalis*, new species; 3, 3a, *californicalis* (Packard); 4, 4a, *ocellus* (Haworth).



FIGURES 5-8.—*Euchromius*, female genitalia: 5, *saltis*, new species; 6, *galapagosalis*, new species; 7, *californicalis* (Packard); 8, *ocelleus* (Haworth).